

November 18, 2003

To: Commissioner for Patents P.O. Box 1450

Alexandria, VA 22313-1450

Fr: George O. Saile, Reg. No. 19,572

28 Davis Avenue

Poughkeepsie, N.Y. 12603

Subject:

Serial No. 10/650,600 08/28/03

Tai Min et al.

MAGNETIC RANDOM ACCESS MEMORY DESIGNS WITH CONTROLLED MAGNETIC SWITCHING MECHANISM BY MAGNETOSTATIC COUPLING

Grp. Art Unit:

INFORMATION DISCLOSURE STATEMENT

Enclosed is Form PTO-1449, Information Disclosure Citation In An Application.

The following Patents and/or Publications are submitted to comply with the duty of disclosure under CFR 1.97-1.99 and 37 CFR 1.56. Copies of each document is included herewith.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 2), 2003.

Stephen B. Ackerman, Reg.# 37761

Signature/Date

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- U.S. Patent 6,242,770 to Bronner et al., "Diode Connected to a Magentic Tunnel Junction and Self Aligned with a Metallic Conductor and Method for Forming the Same," teaches a method for forming thin film conductors as word and bit lines so that the MTJ device is in close proximity to a lower line and a diode is located below that line.
- U.S. Patent 6,166,948 to Parkin et al., "Magnetic Memory Array with Magnetic Tunnel Junction Memory Cells Having Flux-Closed Free Layers," discloses that sub-micron dimensions are needed to be competitive with DRAM memories in the range of 10-100 Mbit capacities.
- U.S. Patent 5,757,695 to Shi et al., "MRAM with Aligned Magnetic Vectors," teaches the formation of an ellipsoidal MTJ cell wherein the magnetization vectors are aligned along the length (major axis) of the cell and which do not present variously oriented edge domains, high fields and poles at the ends of the element.
- U.S. Patent 6,376,260 to Chen et al., "Magnetic Element with Improved Field Response and Fabricating Method Thereof," teaches an improved fabrication method in which the magnetic element includes a first electrode (a fixed layer), a second electrode (a free layer) and a spacer layer between them.

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- U.S. Patent 6,005,800 to Koch et al., "Magnetic Memory Array with Paired Asymmetric Memory Cells for Improved Write Margin," discusses the problem that results when writing to one specific cell aslo affects the magnetization directions of adjacent cells that are not being addressed.
- U.S. Patent Application HT-02-014, Serial No. 10/647,716, filed 08/25/03, assigned to the same assignee as the current invention, discusses the use of magnetic tunnel junctions (MTJ) as storage elements (cells) in non-volatile memory cell arrays, called magnetic random access memories (MRAM).

Sincerely,

Stephen B. Ackerman, Reg. No. 37761

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Docker (Coptions) Form PTO-1449 INFORMATION DISCLOSURE CITATION IN AN APPLICATION Group Art Unit Fling Det (Uso soveral shouls il nocessary) U. S'. PATENT DOCUMENTS AUNG DATE EXAMINER DOCUMENT NUMBER NAME CLASS MACHIA DATE JILUMORYSA X WIM 706/5/01 Bronne 365 FOREIGN PATENT DOCUMENTS Translation CUSS SUBCLASS DOCUMENT NUMBER DATE COUNTRY YES S OTHER DOCUMENTS (Including Author, Tibo, Dalo, Portinorx Pages, Elc.) U.S. Potent Application HT-02-014, Serich Ed 08/25/03, assigne EXAMINER DATE CONNDERED EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through

citation if not in conformance and not considered. Include copy of this form with next communication to the applicant